



Semantic Mapping

What is Semantic Mapping

**SEABORN HAS
OPINIONATED
DEFAULTS!!!**

1 Color

3 Shape ←

2 Size

COLOR, SIZE AND SHAPE ARE USED FUNCTIONALLY, NOT MERELY AESTHETICALLY

COLOR

- Qualitative palettes: good for representing categorical data
- Sequential palettes: good for representing numeric data
- Diverging palettes: good for representing data with two extremes where the values in between do not attach much meaning

Perceptually uniform diverging palettes

Seaborn includes two perceptually uniform diverging palettes: "vlag" and "icefire". They both use blue and red at their poles, which many intuitively processes as "cold" and "hot":

```
sns.color_palette("vlag", as_cmap=True)
```



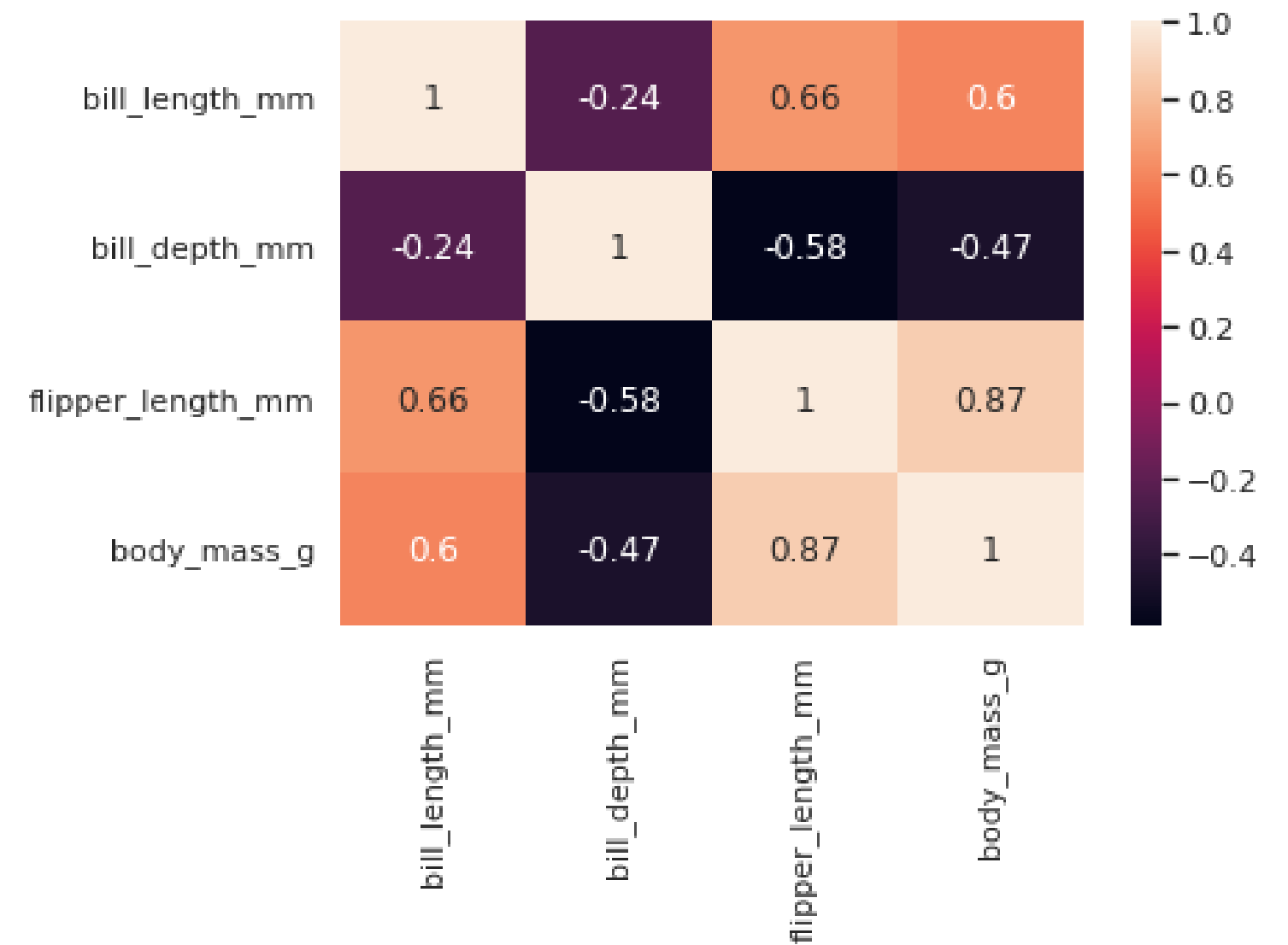
```
sns.color_palette("icefire", as_cmap=True)
```



Source: Seaborn tutorial on color palette

HEATMAP EXAMPLE

```
#generate a heatmap and set  
annotation = True  
sns.heatmap(data=penguins.corr()  
, annot=True)
```



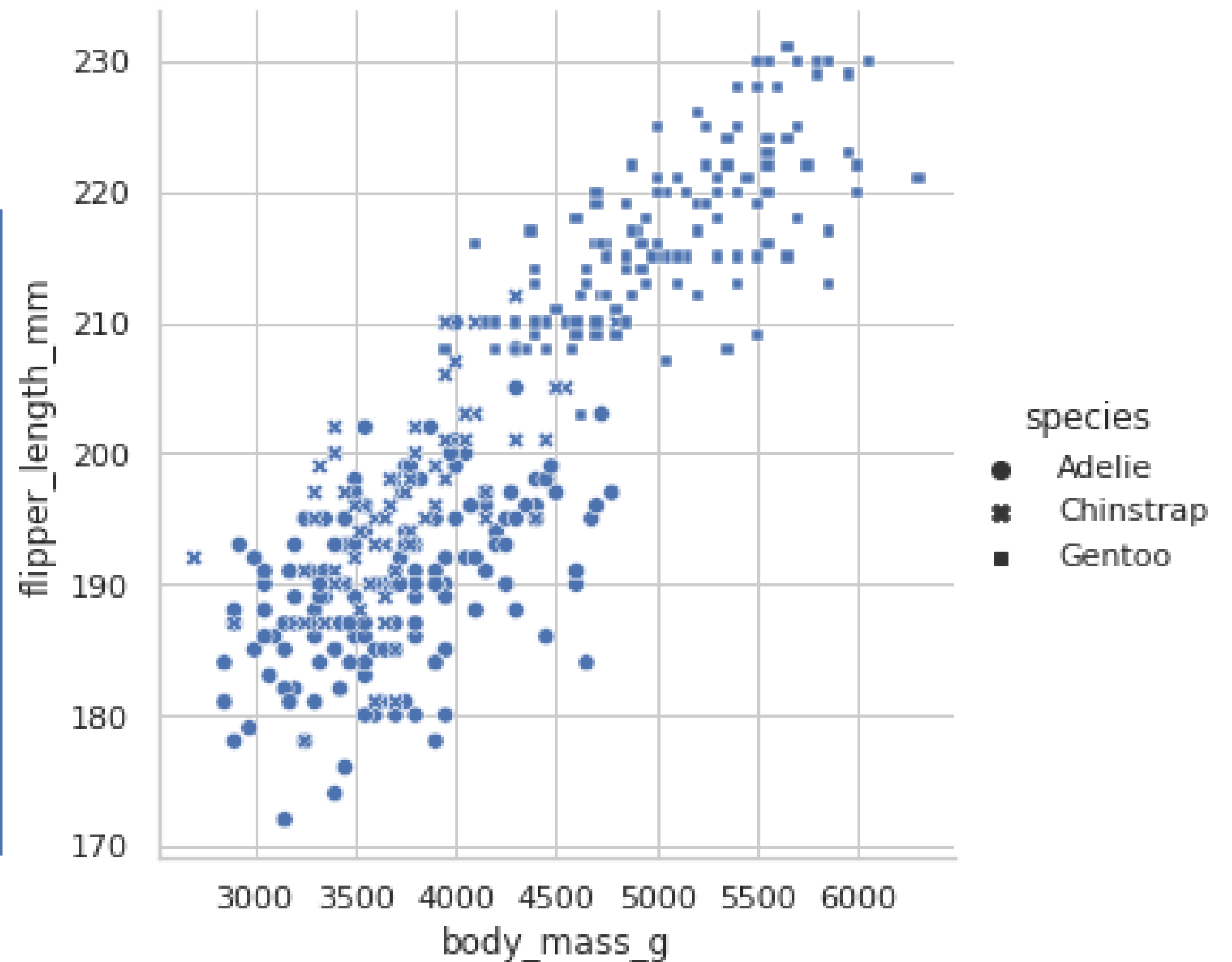


Do this..

Not that

DON'T DO THIS.....

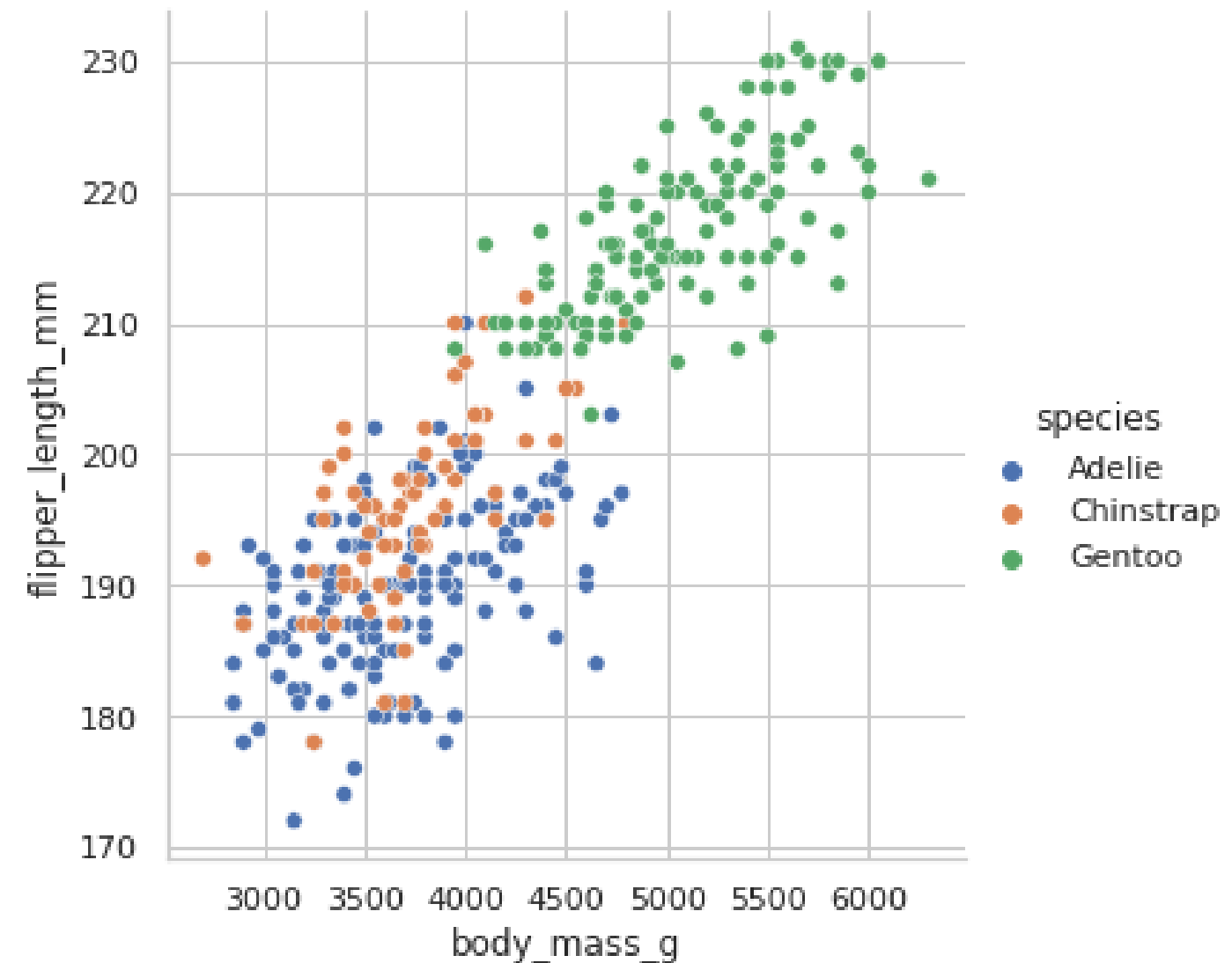
```
#using 'style' to map three  
different species of penguins  
sns.relplot(data=penguins,  
x='body_mass_g',  
y='flipper_length_mm',  
style='species' )
```



DO THIS INSTEAD.....

#using 'hue' to map three different species of penguins

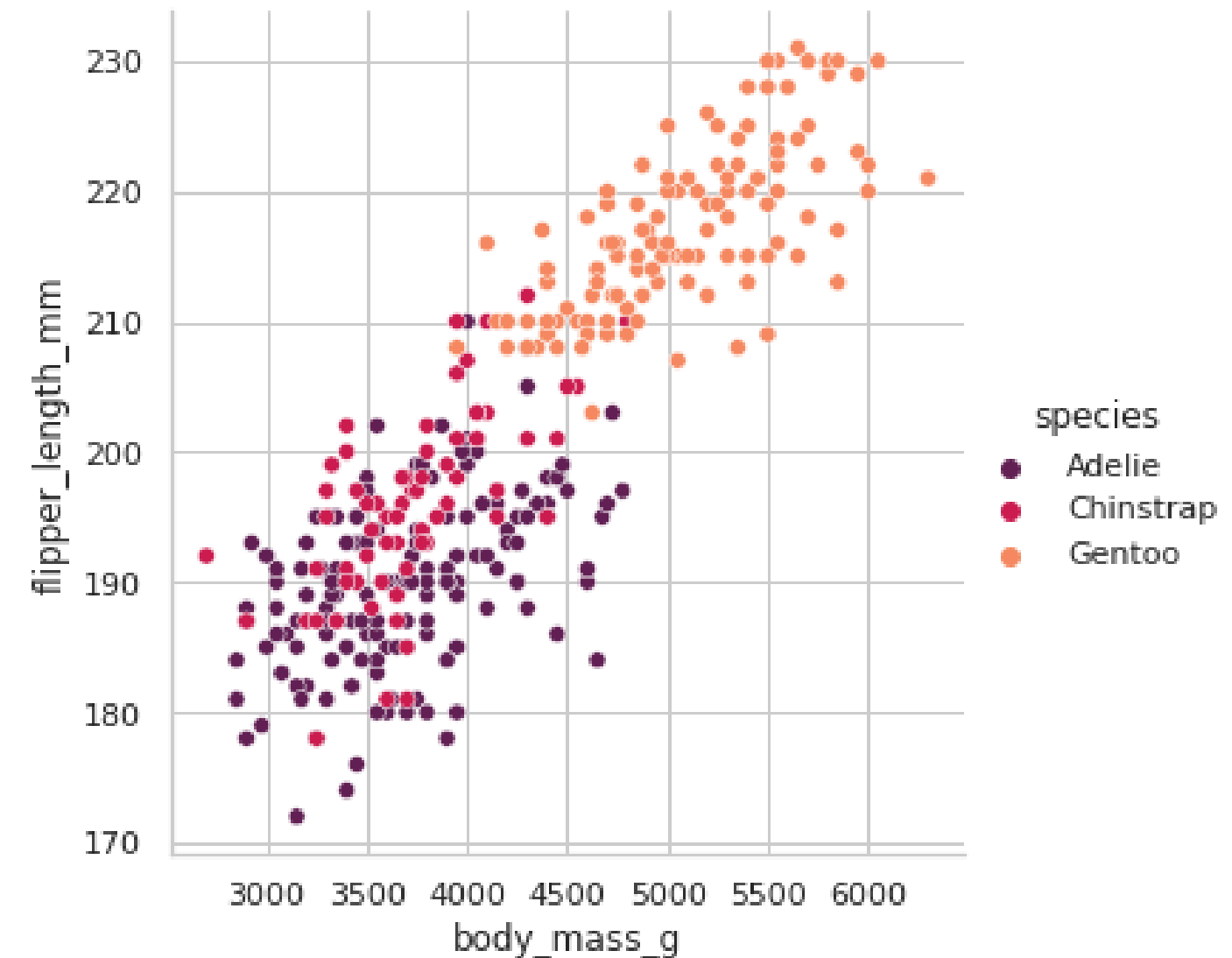
```
sns.relplot(data=penguins,  
x='body_mass_g',  
y='flipper_length_mm',  
hue='species' )
```



EXAMLPE OF A QUALITATIVE COLOR PALETTE

DON'T DO THIS.....

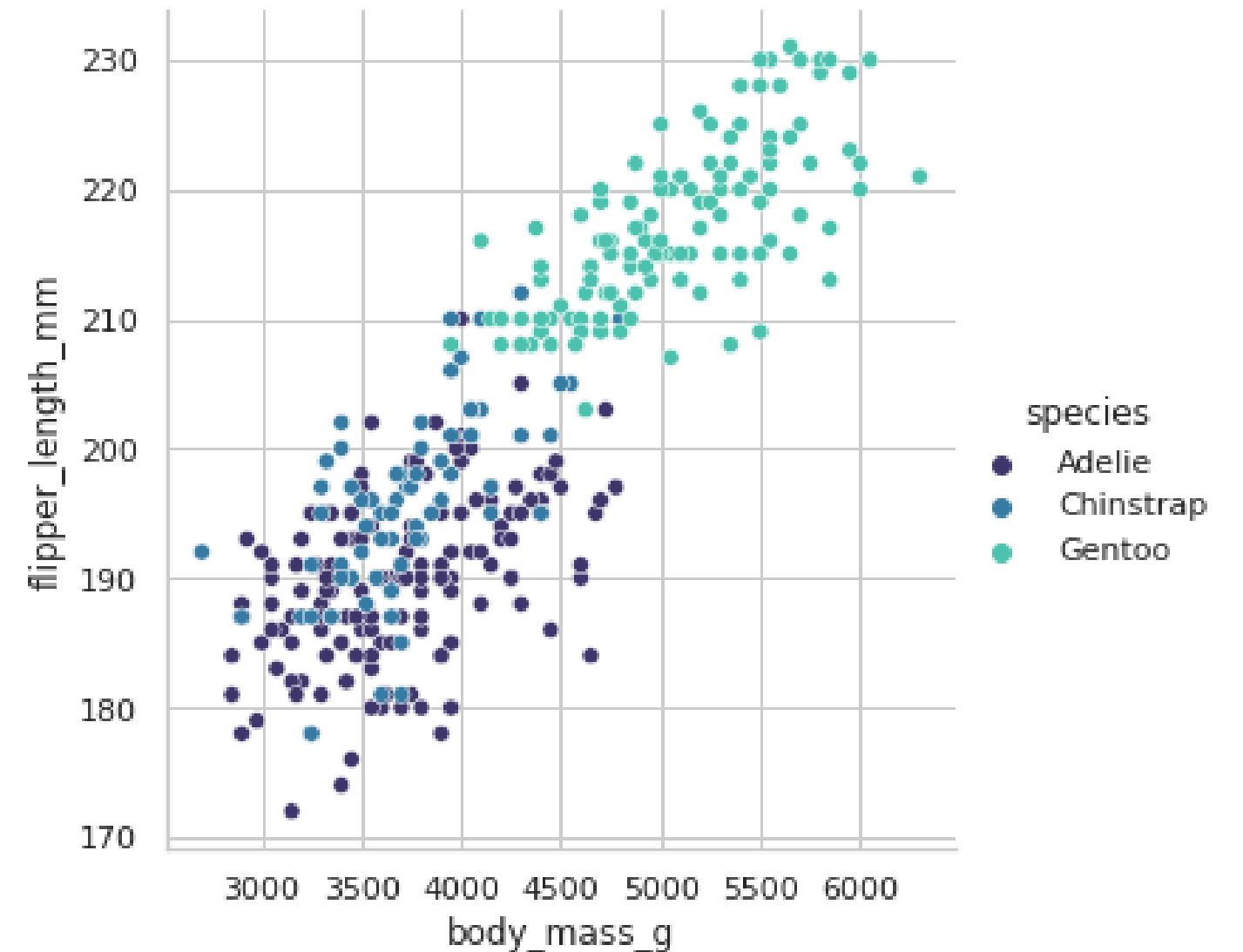
```
sns.relplot(data=penguins,  
x='body_mass_g',  
y='flipper_length_mm',  
hue='species', palette='rocket')
```



Why: The 'rocket' palette is a sequential color palette, better suited for continuous data

OR THIS.....

```
sns.relplot(data=penguins,  
x='body_mass_g',  
y='flipper_length_mm',  
hue='species', palette='mako')
```

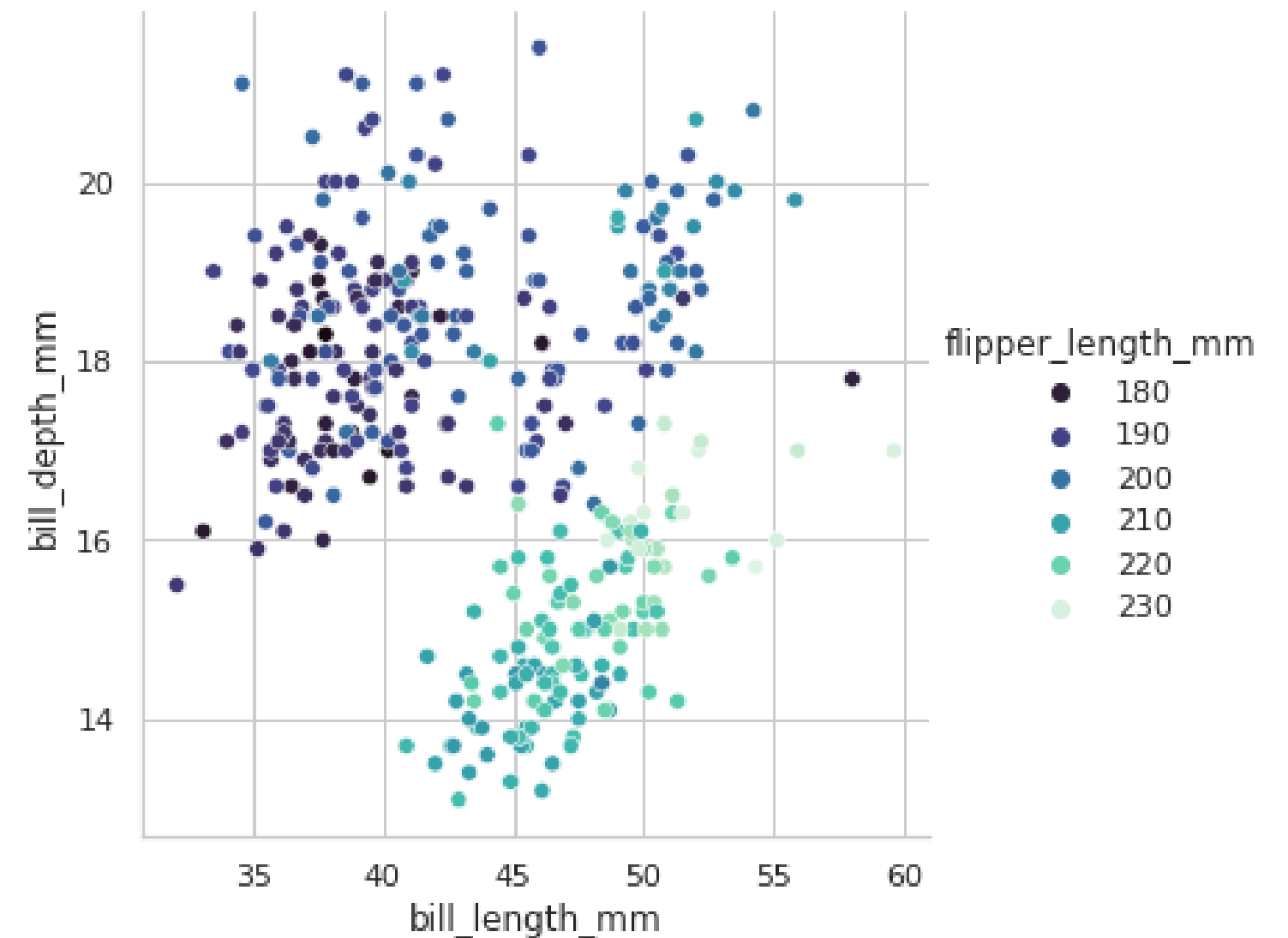


Why: The 'mako' palette is a sequential color palette, better suited for continuous data

DO THIS INSTEAD.....

#using 'hue' to add meaning and communicate the flipper length of the penguin

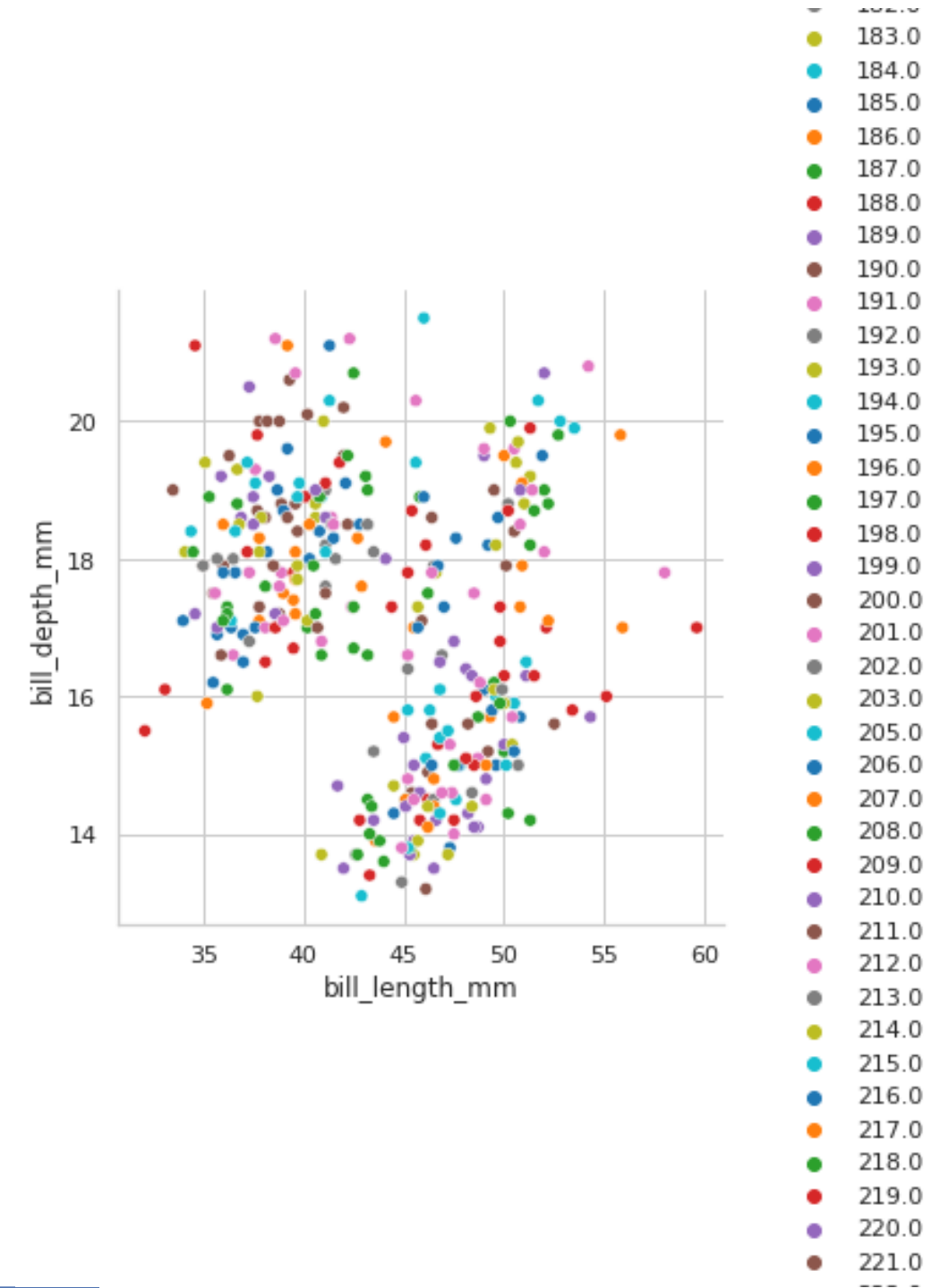
```
sns.relplot(data=penguins,  
x='bill_length_mm',  
y='bill_depth_mm',  
hue='flipper_length_mm',  
palette='mako')
```



EXAMLPE OF A SEQUENTIAL COLOR PALETTE

DON'T DO THIS.....

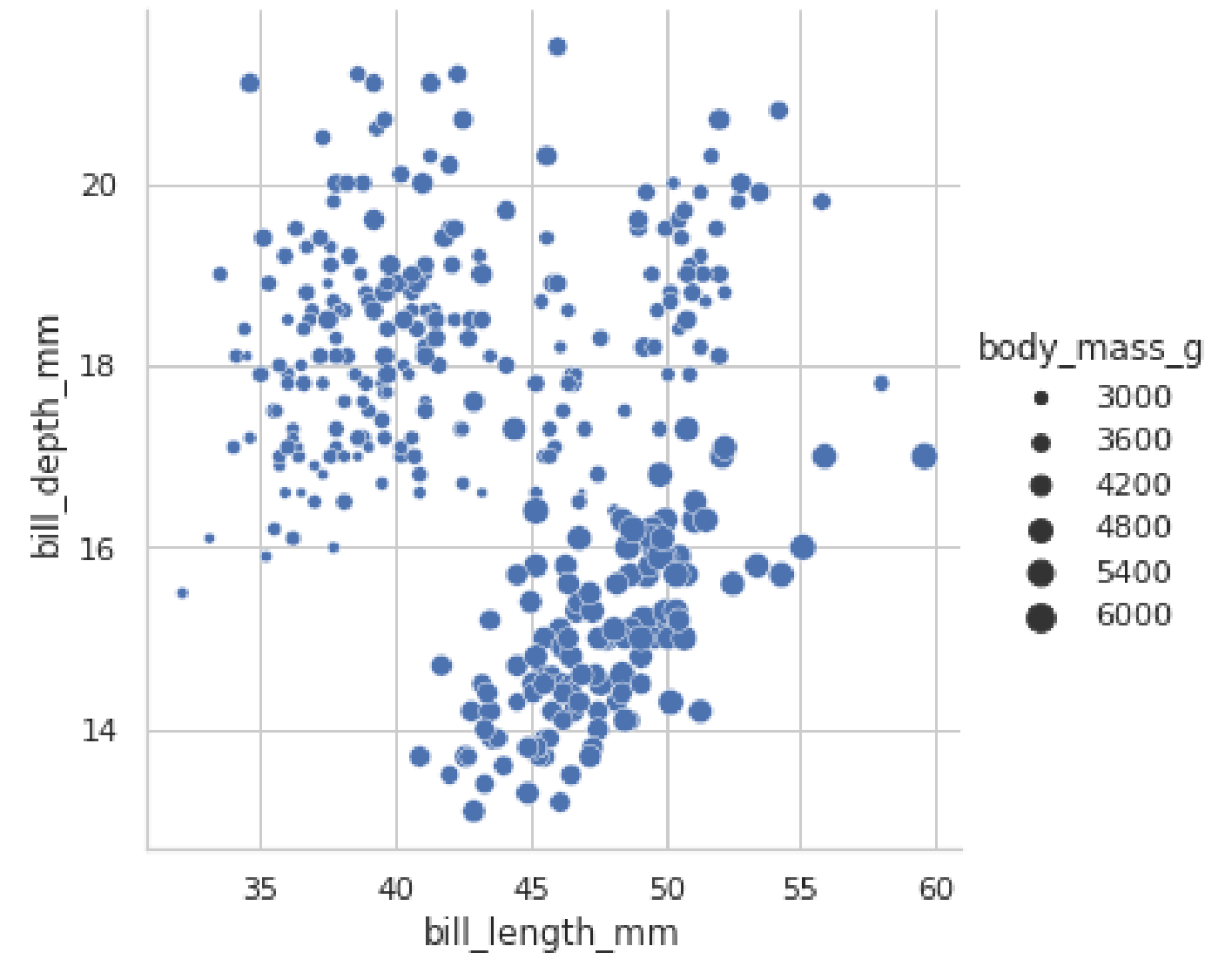
```
s#using 'hue' to add meaning and  
communicate the flipper length of the  
penguin  
sns.relplot(data=penguins,  
x='bill_length_mm', y='bill_depth_mm',  
hue='flipper_length_mm', palette='tab10')
```



Why: The 'tab10' palette is a categorical color palette, better suited for qualitative data

DO THIS INSTEAD.....

```
#using 'size' to add meaning and  
communicate the body mass of  
the penguin  
sns.relplot(data=penguins,  
x='bill_length_mm',  
y='bill_depth_mm',  
size='body_mass_g', sizes=(10,100))
```



EXAMLPE OF USING SIZE FOR NUMERIC VALUE